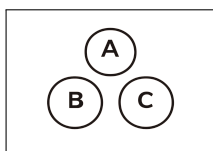


34 Formulas and Identities

Half Angle Formulas

E

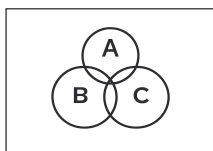


$$\theta = 45^\circ$$

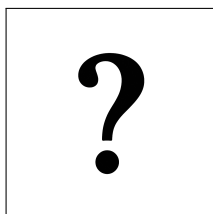
$$\cos^2(45^\circ) = 1 + \cos(90^\circ)/2$$

$$\cos^2(45^\circ) = 1 + 0/2$$

$$\cos^2(45^\circ) = 1/2$$



$$\cos^2(\theta) = 1 + \cos(2\theta)/2$$



$$\theta = 75^\circ$$

$$\cos^2(\theta) = ?$$

34 Formulas and Identities

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$$\theta = 75^\circ$$

$$\cos^2(\theta) = 1 + \cos(2\theta)/2$$

$$\cos^2(75^\circ) = 1 + \cos(150^\circ)/2$$

$$\cos^2(75^\circ) = 1 - (\sqrt{3}/2)/2$$

$$\cos^2(75^\circ) = 2 - \sqrt{3}/4$$